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ABSTRACT

The Queensland (Australia) Board of Teacher Education lets research grants for work in the area of teacher education. As projects are completed, the Board periodically publishes summaries of the project reports. This volume, number three in the series, describes six research studies, as follows: "Student Teacher Stress in Field Studies" (M. Fogarty and others) revealed 40 stressors experienced by third-year student teachers during field studies and presents implications for further research. "An Investigation of the Effects of Training in Assertion and Interpersonal Communication Skills on Pre-Service Teacher Trainees" (Dawn Francis and others) was a descriptive study of the use of assertiveness training as a means of helping teacher trainees overcome communication apprehension and thus increase teacher effectiveness. "What Do Student Teachers Do? An Exploration of the Dynamics of Teacher Education in Queensland" (J. M. Genn) reports on research findings obtained in the course of a wider research project involving analysis of data provided by 441 Queensland student teachers from six teacher education institutions. "Educating Bachelor of Education Students through Self-Managed Learning Groups (S-MLG)" (Wayne T. Haines) reports on the effectiveness of these programs and what student teachers gained from them. "Perceptions of Teaching Practice: A Longitudinal Study" (Ross Muller) investigated the opinions of fourth-year experienced teachers concerning aspects of teaching practice. "Objectives and Skills Needed for Effective Reading Instruction" (R. J. Skilton and G. Bull) sought to determine the level of teacher knowledge and skills in the area of reading instruction. (CB)

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RESEARCH GRANTS SERIES

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FOREWORD

The Board of Teacher Education's research grants scheme aims to encourage research into teacher education by providing limited funds to support research projects which have the potential to make a significant contribution to the development of teacher education in Queensland.

As projects carried out with assistance from the scheme are completed, the Board will be publishing summaries or abstracts of reports which it feels are of interest to a wider audience.

The Board's policy is that its publications will not be the subject of copyright restrictions. Teachers, teacher educators and others are encouraged to make use of the material contained in these reports.

Further details concerning particular projects, including information on the availability of the full reports, may be obtained from the individual researchers concerned.

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STUDENT TEACHER STRESS IN FIELD STUDIES

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1. BACKGROUND

At the Carseldine Campus of the Brisbane College of Advanced Education, the Diploma of Teaching has two complementary field studies programs. The traditional program of block practice involves students in spending a continuous period of time, three weeks per semester, at designated primary schools where emphasis is placed on communication skills, the planning of lessons and units of work, the mastery of teaching/learning techniques, organisation and management of the teaching/learning environment and evaluation of learning. The innovative school studies program involves students in working with teachers in schools for one day per week for twelve weeks per semester and allows college and school work to be interwoven in a theory/practice cycle and emphasises planning and the gaining of an awareness of the school, a range of classes and individual children.

2. THE PROBLEM

Observations by college personnel, school personnel and the Campus Student Counsellor as well as comments by students indicated that some students, at least, were experiencing a degree of stress due to involvement in field studies. Accordingly a team of lecturers took the decision to investigate this further, but within certain parameters. It was decided to limit the study to third-year students, those with the greatest experience in the area. The team agreed that there was a need to identify the degree and frequency of sources of stress in Block Practice and School Studies as a first step towards assisting students to cope with undesirable aspects of stress in an effort to assist them to make the greatest possible gains from their field studies experiences.

Towards this end, the team received a grant from the Queensland Board of Teacher Education.

3. DATA COLLECTION AND ANALYSIS

To obtain initial data, an open-ended questionnaire was devised. Students were asked to list what they considered to be the causes of stress in block practice and in school studies. The questionnaire was distributed to approximately half the third-year students, all of whom responded. A simple listing and tallying procedure was utilised to group the initial responses. As well some simple collapsing was undertaken. Progressive breakdowns occurred until the final manageable lists were determined. It was clear that there was almost complete commonality between block practice responses and school studies responses, so a single set of items was compiled for use in the final questionnaire.

A draft of the intended "final" questionnaire was trialled with a group of students and minor adjustments were made. The final questionnaire contained forty items in both the block practice and the school studies areas. Respondents were asked to evaluate each of the items in relation to its frequency of occurrence and its degree of stress. The questionnaire was distributed to the total third-year population. Ninety per cent of the questionnaires were returned.

The study was intended to be exploratory and descriptive in nature. The data was analysed primarily using descriptive statistics such as means, standard deviations and factor analyses.

4. DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

This discussion centres on the four major findings of the research study. These are the stressors identified; the stress factors derived from these; the comparison of the effects in block practice and school studies; and some general observations. Finally, some implications for further research are foreshadowed. At this stage it should be noted that the program evaluated was specific to Carseldine's Diploma of Teaching and would not be held to generalise to the wider teacher education scene. However, it is thought that findings will be of interest to teacher educators as a catalyst for discussion and perhaps as a basis for others who may wish to carry out their own investigations.

4.1 The stressors identified

The research has identified forty stressors which third-year teacher education students on this campus said affected them during periods of Block Practice and School Studies. Frequency and degree of each stressor were found and frequency times degree computed for each stressor in both programs. From this it has been shown:

(a) Some stressors are potent for many students most of the time. For example, 76.8 per cent of the sample replied that heavy workload caused stress fairly often to all of the time in Block Practice. A similar reporting, although slightly higher, occurs in School Studies.

(b) Some stressors are potent for many students to a considerable degree. In total, it is shown in Block Practice that 74.4 per cent of the students experience some to a lot of stress whilst for School Studies this drops to 68.6 per cent.

(c) Some stressors are potent for at least some students. For example the item, "not accepted by the children because I don't teach as their teacher does", caused a high level of stress to a very small number (1.2 per cent) of the students in Block Practice and 5.8 per cent in School Studies.

4.2 The stress factors

In addition to identifying forty stressors, factor analysis produced five interpretable factors for the Block Practice stress variables and seven for School Studies.

4.2.1 Block practice

For Block Practice these factors in rank order were: overload, relationships with school personnel, role ambiguity, interactions with children and busy work. All factors have appeared previously in some form in the general stress literature, e.g. in order, excessive workload (Caplan, 1972); relationship to supervisor (Theorell, 1974) and inadequate support from supervisor (Pearse, 1977); role ambiguity (Kahn, 1973); conflict with, or pressure from customers (Kroes, Hurrell and Margolis, 1974) and finally unchallenging, monotonous work (Cox, 1980; Quinn, 1975).

In the student teacher stress literature, however, overload is not specifically mentioned although preparation of lessons, one likely cause, is reported by several authors (e.g. Coates and Thoresen, 1976). Interaction between a student teacher and the personnel in the school is important (Sorenson and Halpert, 1968) and further, relationships with college supervisors were a major source of tension (Coates and Thoresen, 1976). Role ambiguity as such is not mentioned but conflicting feedback from teacher and college supervisors is a potential stressor (Sinclair and Nicoll, 1981).

Interaction with pupils is revealed in the specific student teacher literature to be a further area of stress. This research study found this to be so but found that it ranked well down in Block Practice and School Studies.

Interestingly, one item in this factor, class control, receives considerable attention in the literature (e.g. Sinclair and Nicoll, 1981) as a strong stressor in contrast to our finding.

Busy work is not mentioned as a potential stressor in previous research although in this study it emerged as a significant factor.

4.2.2 School studies

For School Studies, of the seven factors determined, three were common with Block Practice, viz. relationships with school personnel, role ambiguity and relationships with children. The four additional factors were irrelevant work, time-consuming work, fatigue and extrinsic factors.

It is not surprising that this innovative field experience program has revealed a relatively new set of factors which does not have any corresponding reference in the general or specific literature. One exception is the area of time. Pearse (1977) refers to the pressure of time and Schmidt (1978) refers to the pressures of meeting deadlines.

Two potential stressors discussed in the specific literature, viz. classroom organisation and control (Sinclair and Nicoll, 1981); and standards set by students themselves (Caruso, 1977) were not revealed in this study.

4.3 Comparison of stress in Block Practice and School Studies

It was not surprising to learn that for the two field studies programs, differing but complementary in philosophy and approach, different factors caused differing amounts of stress. When the factors are rank ordered two School Studies factors - time-consuming work and fatigue - rank 1 and 2. This stems in part from the regu-

larity (one day per week) and the totally integrative nature of the program. The Block Practice factor, overload, ranks third.

Role ambiguity (School Studies) and role ambiguity (Block Practice) ranking fourth and fifth produce approximately similar degrees of stress. This is somewhat confounding as it was considered that Block Practice, being long established, would cause considerably less role ambiguity.

Relationships with school personnel (Block Practice) ranked sixth compared with the like factor in School Studies which ranked tenth. This in part could be explained by difference in the assessing role of the teacher supervisor. In School Studies this task is left almost exclusively to the college staff member.

Irrelevant work (School Studies), busy work (Block Practice) and extraneous, e.g. travel (School Studies) rank seventh, eighth and ninth respectively.

Interactions with children (Block Practice) ranked eleventh and the similar factor in School Studies ranked twelfth. Both factors produced low levels of stress which was a pleasing finding.

4.4 General observations

This research revealed forty stressors experienced by third-year student teachers during field studies, derived several stress factors for both programs and compared the results in these programs. Analyses were undertaken relative to sex differences, age and general stress levels experienced but few significant differences were revealed on the basis of these variables.

4.5 Implications for intervention

The implications for intervention come in the form of seven recommendations. Recommendations 1 to 5 suggest intervention at A (Stressors) on the model of the stress process; recommendation 6 suggests intervention at B and C (Internal and External Moderators); and recommendation 7 suggests intervention at D (Stress Reactions).

Recommendations

1. It is recommended that the reaccredited Diploma in Teaching be monitored closely with a view to streamlining the number and extent of assignments and activities within the school-based (SB) units.
2. Likewise, it is recommended that the work to be covered in Block Practice be reviewed with the intention of clarifying further the objectives and content of each session.
3. It is recommended that the roles of each participant in both programs be systematically reinforced.
4. As an adjunct to (3) above, it is recommended that supervisory training programs be extended to include all involved personnel.
5. It is recommended that expectations relative to tasks within both programs be clarified for the relevant participants.
6. It is further recommended that the avenues and extent of institutional support be made clear to students, specifically the counselling services available.
7. It is finally recommended that stress reactions be further dealt with in Health courses.

4.6 Implications for further research

This research study was seen as an introductory one and opens up scope for further developments. Some questions for further consideration include:

(i) Are stressors the same for first, second, third and fourth year students?

(ii) Do stressors become more intense or less intense as students progress through their course?

(iii) Will the early identification of stressors help to lessen or even eliminate them as the course progresses?

(iv) What is the bearing of sex, age and general stress experienced to stress experienced in field studies?

(v) Which are negative stressors so that student teachers may be aided to cope with these?

(vi) What is the relationship between stress and task performance?

These questions and others could be addressed in future research.

5. CONTINUATION OF RESEARCH

The research team has received a further grant from the Queensland Board of Teacher Education to continue its research into student teacher stress in field studies.

Stage two seeks to discover whether the stressors for third-year students are the same as those for first, second and fourth-year students. The same questionnaire and analysis procedures as used in stage one will be employed in this stage. The questionnaire will be administered to first, second (Diploma of Teaching) and fourth (Graduate Diploma in Teaching) students at the Carseldine Campus of BCAE. As well it will be distributed to graduate diploma students at the Kelvin Grove Campus of BCAE and McAuley College.

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AN INVESTIGATION OF THE EFFECTS OF TRAINING IN ASSERTION AND INTERPERSONAL COMMUNICATION SKILLS ON PRE-SERVICE TEACHER TRAINEES

Dawn Francis, Jocelyn Clayton and John Edwards,
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BACKGROUND

This work set out to provide a descriptive study of the use of assertiveness training as a means of helping teacher trainees overcome communication apprehension and so increase teacher effectiveness. Research indicates that between 10 and 20 per cent of all college students suffer from extreme communication apprehension and that these figures may be even higher in secondary and elementary schools (McCrosky and Anderson, 1976). Surveys of twenty thousand students in three American universities over an eight-year period (Adler, 1977) have shown that between 15 and 20 per cent of students feel that their functioning in everyday encounters is impaired by communication apprehension. At the former College of Advanced Education (now James Cook University), assertiveness training workshops have been attracting more student volunteers than can reasonably be catered for. This indicates a real concern on the part of trainee teachers about their communication confidence. To date the use of assertiveness training as a means for facilitating communication competence and teaching effectiveness has not been empirically validated.

This study set out to:

(i) design and implement a course in assertiveness for trainee teachers

(ii) collect subjective and objective data on both the course and its effects on trainee teachers

(iii) make recommendations for the conduct of future assertiveness courses for teacher trainees.

PROJECT DESIGN

1. Subjects

Fifteen primary (second year) and fifteen secondary (fourth year) student teachers formed the two treatment groups. Initially six primary and six secondary students constituted a control group but changes in school allocations and drop-outs reduced the usable control group to the six secondary students.

The primary students were selected on the basis of random allocation to nearby large schools so as to reduce travelling time for observers. All were given a choice as to participation. These students had completed normal Diploma of Teaching coursework in basic communication skills and had had some experience with role-play. Relationship with one of the team leaders was already established. The secondary students had done no specific training in communication skills. Of the twenty-three students in the fourth year of the secondary program, fifteen volunteered for the treatment group, six volunteered for the control group and two chose not to be involved. Some secondary students later reported to the observer that they felt an obligation to one of the team leaders to be involved.

2. Context

Because of differing term programs and timetables, the primary and secondary trainees were treated separately. The fifteen secondary trainees were placed in five different schools as determined by their normal practicum allocation. The fifteen primary students were placed in two different schools on the same basis. Supervising teachers were aware that the students were involved in a research project but were not informed about the content of the course or expected outcomes.

The assertiveness course was held at the University in the students' lunch hour.

3. Personnel

The leaders conducting the course were one female lecturer from primary education, a male lecturer from secondary education and the student counsellor (female). All three had worked together previously in assertiveness training. Two observers, with previous experience in similar classroom research observation, helped develop and subsequently trialled an observation form. Inter-observer reliability using this form was checked and found to be high. These observers had no detailed knowledge of the course content, nor did they have prior contact with the student subjects.

4. Materials

A battery of tests was administered at four stages in the project. Two of these were used for this particular study.

(i) The Minnesota Teacher Attitude Inventory (MTAI) by Cook, Leeds and Callis (1951): This inventory has been widely used in the published form (Form A) and has been subjected to several studies of validation to exclude susceptibility to faked responses. The MTAI was the instrument chosen to gauge the teacher effectiveness of subjects as expressed by self-rating of their attitudes.

(ii) The Rathus Assertiveness Schedule (RAS) by Rathus (1973) is a six-point self-report scale which allows subjects to indicate how characteristic or uncharacteristic for them a list of thirty behaviours is. It has been shown to be reliable and valid with normal populations (Rathus, 1973) and was derived from the questions used by Wolpe and Lazarus (1960) and situations reported by college students. It is also useful in identifying particularly difficult situations which the group may have in common.

An observer rating form was developed, trialled and subsequently used by the observers during teaching practice.

5. **Procedure**

There were five phases in the study.

(i) Pre-practicum 1

The project was briefly explained to the students who then were free to choose whether to continue to be involved. Those opting to participate contracted to attend lunch time assertiveness training, complete tests, pre- and post-, each practicum, and keep a diary. Group leaders contracted to maintain confidentiality by the use of student numbers rather than names in reporting, to keep research data out of any practicum assessment and to keep work outside of contracted training hours to a minimum. The MTAI and RAS were administered. No time limits were set for test completion.

(ii) Practicum 1

In addition to normal practicum requirements, students were asked to keep a diary recording significant events and associated subjective units of discomfort (SUDS). After each of three post-lesson interviews with their supervising teachers, students completed a post-lesson interview schedule. Ten of the primary treatment students, and ten of the secondary students were observed on three lessons each by the research observers. Detailed subjective observation schedules were completed during each visit and each student was interviewed at the completion of each observation visit.

(iii) Between Practicum 1 and 2

Students completed the MTAI and RAS immediately after the Practicum, prior to the treatment training course. Eight one-hour workshops were conducted jointly by the three leaders. All workshops were audio taped and students were asked to make diary entries at the end of each workshop. Students had the option to delete any interaction from the tapes that they felt to be too personal.

(iv) Practicum 2

As for Practicum 1.

(v) Post-Practicum 2

MTAI and RAS were completed and diaries collected. Subjects were invited to an interview by the observers who sought subjective comment on both the program and perceived changes noted in individuals.

RESULTS: TESTS

The results reported here are for the Rathus Assertion Schedule and the Minnesota Teacher Attitude Inventory (MTAI). The information provided is descriptive. Those interested in a more detailed statistical analysis of the full range of data should contact the authors of this report.

Primary group

A complete set of data was obtained for only seven of the fifteen students on the Rathus and for twelve of the fifteen on the MTAI.

Over the first teaching practice, six of the primary students made gains on the Rathus. For the second teaching practice, five made gains, while over the period of

the treatment eight made gains and two showed a reduced score. This suggests that, overall, the treatment was effective in increasing assertiveness.

For the MTAI, over the first teaching practice nine increased and two decreased, while over the treatment period nine increased and three decreased. The trend is one of continued steady growth over the year, suggesting that both teaching practice and the assertion teaching had positive effects on the student teachers' ratings of themselves as teachers.

Secondary group

A complete set of data was obtained for only eight of the fifteen students on the Rathus and for eleven of the fifteen on the MTAI.

Over the first teaching practice, four students scored more highly on the Rathus and eight decreased, for the second teaching practice three increased and four decreased, while over the treatment period seven increased and three decreased. This again suggeted that the treatment was effective in increasing assertiveness.

For the MTAI, over the first teaching practice, three increased and eleven decreased. For the second teaching practice, eight increased and three decreased, while over the treatment period, nine increased and four decreased. It is clear that the first teaching practice had a significant negative effect on the secondary student teachers' ratings of themselves as teachers, as it also did on their assertiveness ratings. However their ratings of themselves as teachers improved over the treatment period, and this improvement continued over the second teaching practice.

OBSERVER RATING SCALES

Because of the small number of students involved and the limited number of lessons observed, care must be taken with attaching significance to the scores reported. However there are interesting trends in the results which are worthy of comment.

(a) Overall comparison

In ten of the twenty-three categories observed, both the primary and secondary treatment groups improved relative to the secondary control group. These categories were: eye contact, voice volume, voice tone, language, facial expression, congruence, setting expectations, pace, directions and flow. In no category did both treatment groups decline in performance relative to the control group.

In three categories both treatment groups showed large improvements in an absolute sense as well as relative to the control group. These categories were congruence, flow and voice volume. In two other categories the relative improvements of the treatment groups are large but only as a result of large drops by the control group. These categories were setting expectations and giving directions.

The major improvements in the students' abilities to present themselves to a class are encouraging findings. Improved congruence was a major aim of the treatment and is the single most impressive gain revealed by these data. Improvements in voice, use of language and facial expression, and eye contact are all tangential to the major thrust of the treatment but relate strongly to the types of experience and feedback provided during the treatment. Improvements in setting expectations and giving directions relate closely to discussions during the treatment. Improved pacing and flow of lessons are both tangential to the treatment.

(b) **Secondary group**

In an absolute sense the treatment group improved on twenty categories and declined on three. When compared with the control group they improved on fourteen categories and declined on eight.

It is important to note that the treatment group were rated more highly than the control group on sixteen of the twenty-three measures before the treatment. After the treatment they were rated more highly on twenty of the twenty-three measures. While such a situation clearly reveals the non-equivalence of the groups, it would be argued by the researchers that the relative shifts would still be seen as strong illuminative data.

Trends from the treatment-control comparison which were not discussed in (a) above are in the areas of body, preparation, subject matter, compliance and assertiveness. While the treatment group showed no absolute decline in the use of open body stance, the relative decline compared to the control group is a disappointing result. The relative improvements in preparation, subject matter mastery and compliance of students are mainly the results of relative declines in the control group ratings. It is interesting to note that while the treatment group showed almost no change in assertiveness, the control group became more assertive.

(c) **Primary group**

This group improved on eighteen of the twenty-three categories. No discussion of comparison with the secondary control group will be included here as the links between the two groups are too tenuous.

Trends in the data for the primary group which have not been discussed in (a) above relate to four categories. Large improvements in assertiveness, voice variability and enthusiasm were revealed. The first of these is an important finding, particularly in view of the differences between the primary and secondary groups with respect to their attitude to the program. The large decline in student behaviour in the classroom of the student teachers is a worrying finding. Comparison with the other groups suggests that there could have been a problem with over-high ratings in this area during the first series of observations.

DISCUSSION AND RECOMMENDATIONS

The original report includes detailed discussion of a range of specific issues: group composition, group size, group leadership, timing, conflicting demands of research and training, process and procedures and use of rating scales. It also provides a specific set of recommendations both for setting up such a course and for research in this field. A full outline of the topics, strategies and resources used is included as an appendix to the report, as are copies of the instruments designed for the project.

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WHAT DO STUDENT TEACHERS DO?
AN EXPLORATION OF THE DYNAMICS OF TEACHER EDUCATION IN QUEENSLAND

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1. INTRODUCTION

1.1 Aim of the Paper

The aim of this paper is to present what, it is hoped, is a straight-forward, readable and interesting account of some apparently important aspects of teacher education in Queensland.

The paper reports research findings that were obtained in the course of a wider research project involving analysis of data provided by 441 Queensland student teachers from six teacher education institutions drawn from both the University and college of advanced education sectors of higher education. A report of this wider project has been prepared and submitted to the Board of Teacher Education, Queensland, which funded the research (Genn, 1985).

The aspects of this wider research project that will be singled out for description and discussion in this paper have been chosen for what appear to be their immediate pertinence and relevance to the interests of all persons involved in teacher education, and concerned for the maintenance and enhancement of its quality, be they student teachers, teacher educators, administrators of teacher education, planners for teacher education's improvement, or interested community observers of teacher education. The presentation of the paper at this juncture may mean that it may assist, in particular, the deliberations of those responsible for preparing a document, Project 21: Teachers for the 21st Century, which will report a current review being undertaken by the Board of Teacher Education, Queensland, of teacher education and registration in Queensland. Deliberations currently occurring, of the Education 2000 document prepared by the Department of Education, Queensland (1985), involve

teacher education considerations, which may also be assisted by reference to the findings and issues this paper highlights.

1.2 Focus of this Paper

The study to be reported in this paper singles out some particular analyses that were conducted as part of the wider project, but were not reported on, in any detail, in the report of that wider project (Genn, 1985). The analyses to be reported upon here were ones that, it was thought, would be of particular interest to the audiences to which this paper is addressed.

The focus of the study reported in this paper was on what student teachers actually do, in their education as teachers. Building on some research endeavours initiated by Dr C. Robert Pace, the distinguished Professor of Higher Education at the University of California at Los Angeles, this study employed some measuring instruments that appear to be able to successfully record the variety and extent of a student's participation and involvement in the processes of his or her higher education in university or college of advanced education.

The interest in the study was not only in obtaining measures in a domain comprising what the student teachers actually do, but in relating information about what the students do to two other broad domains of information.

One of these latter domains comprised a number of variables that were viewed as antecedents and possible predictors or determinants of what students actually do in their teacher education. Not surprisingly, this domain of possible predictors included not only characteristics of the individual students but also took note of the institution they attended and their perceptions of it.

The other broad domain of information, to which information about what student teachers actually do was to be related, was a domain comprising what might be called the outcomes or consequences of what the students do in their teacher education. Not surprisingly, again, the main matters of interest concerning outcomes or consequences were those pertaining to student achievement and satisfaction.

1.3 Components and Dynamics of Teacher Education in this Study

Three domains of variables have been noted as of central interest in this study, one being the domain concerned with what students actually do, one being the domain concerned with possible predictors of what students actually do, and the third being the domain which is being viewed as comprising the outcomes or consequences of what the students actually do. Each of these domains, as will become evident later in this paper, is comprised of a number of variables. As will be noted, the domain concerning what students actually do consists of fourteen variables, the domain which comprises the predictors of what students do consists of twenty-three variables, and the domain which comprises the outcomes or consequences of what students do consists of eight variables.

Altogether, then, there are forty-five variables of interest in this study, and the interplay or complex web of interrelationship among these forty-five component variables constitutes the dynamics of teacher education, in the context of this study. Not all this web of interrelationships will be considered in this paper, but the study reported here will explore much of the dynamics of teacher education, by looking at the complex patterns of interrelationship that emerge when the major domain of interest, i.e. what students actually do, is linked, in turn, to the domain of variables that are viewed as predictors of what the students do, and then to the domain of variables that are viewed as outcomes of what the students do.

In fact, some apparently interesting and valuable syndromes, of a psycho-social-educational kind, will arise, when domains are linked in complex patterns of inter-relationship. Some of these syndromes will be equivalent to pathways to learning, showing how particular patterns of student activity in their education are linked to patterns of personal, biographic, demographic and contextual variables that serve as predictors of student activity. Other syndromes will be equivalent to pathways to fulfilment, showing how particular patterns of student activity are linked to particular patterns of achievement and of satisfaction. The mapping of these syndromes, and the analyses on which they are based, are due to the recent availability of some exciting and powerful multivariate statistical procedures that can encompass the complexity of the components and dynamics of the teacher education phenomena we are considering.

1.4 Plan of the Paper

Succeeding this introductory Section 1 of this paper will be further sections, as follows:

- Section 2: Measuring What Student Teachers Do
- Section 3: Prediction of What Student Teachers Do
- Section 4: Outcomes of What Student Teachers Do
- Section 5: The Importance of What Student Teachers Do
- Section 6: Review and Summary Discussion
- Section 7: References

2. MEASURING WHAT STUDENT TEACHERS DO

2.1 Foundational Work in the United States

In the last seven years or so Dr C. Robert Pace has developed scales to measure what he terms the "Quality of Effort" characterising students in higher education institutions (Pace, 1983, 1984). Some of the scales measure the degree of effort, involvement and participation that characterises a student in the academic-cognitive aspects of college or university life, while other scales measure degree of effort, involvement and participation characterising a student, in the use of group facilities, clubs and associations, and yet another set of scales measures effort, involvement and participation in activities that are related to personal and social development and self-understanding.

In his set of fourteen scales and the total of 142 constituent items, Pace believes he has made a systematic inventory of the campus experiences of undergraduate students in the United States. Each scale consists of a set of items, some of which refer to things that are relatively easy for a student to do, while other items in the scale refer to things that are relatively difficult. Each scale reflects a hierarchy, from simple to more complex or difficult activities or tasks. Pace believes that an activity that is more difficult, and exacts more effort, is educationally more valuable and developmental. By way of illustration, he comments that it is educationally more desirable for a student to strive to find structure and patterns of meaning in what he or she is learning, rather than to merely learn some material by rote. Likewise, he says it is better, educationally, to make the effort to visit the Grand Canyon and clamber on it and over it, than merely to see picturers of it or read about it. Pace believes that the quality of effort that characterises a student's participation and involvement in his or her tertiary education is equivalent to the quality of the educational process itself, for that student.

Interesting, and relevant too, to this enquiry, is Pace's stress on the accountability of tertiary students, for the extent to which they use the opportunities and

facilities that the educational institution provides or offers (1984). Pace observes that college or university attendance is a voluntary activity, during the course of which students are not regulated, or their work monitored, in anything like the way this regulation and monitoring occur in lower levels of education. Students in tertiary institutions are, Pace believes, responsible for exercising initiative and investing energy, to provide for themselves an education that will foster development in both desired and desirable ways. In one enquiry that Pace made, he found that 95 per cent of students agreed with his assertion concerning accountability of tertiary education students for the quality of effort they invest in their education (1984).

2.2 Scales used in this Australian Research to Measure what Students Actually Do

It was decided to measure what students actually do in their teacher education, by the use of scales to measure the Quality of Effort that students invest in the various aspects of their education. Altogether fourteen scales were used, so the domain which has heretofore been referred to in terms of what students actually do, and which henceforth may also be called the Quality of Effort domain, was a multivariate and in this case a fourteen-variate domain, with each student in the study obtaining a score on each of the fourteen Quality of Effort scales.

In this study of teacher education in Queensland, twelve of Pace's fourteen Quality of Effort scales were used, essentially intact. These twelve are named in this study as follows:

- Learning, Library, Faculty, Writing
- Self-Understanding, Students, Conversation: Topics, and Conversation: Discourse
- Union, Clubs, Athletics, Art-Music-Theatre.

As can be seen, even from the abbreviated and perhaps cryptic scale names, the first four scales refer to the academic-cognitive area, the next four concern activities pertaining to personal and interpersonal relationships and personal-social-emotional development, while the latter four refer to the extent of use of group facilities, clubs, associations. The exact nature of each scale will be clearer in the extended description of each scale and its respective continuum or hierarchy, given in the Table below, setting out the underlying quality dimension of each of the fourteen Quality of Effort scales used in this study.

Underlying Quality Dimension of Each of the Fourteen Quality of Effort Scales, and Scale Reliability Coefficients

SCALE	DIMENSION	RELIABILITY (Coefficient Alpha)
Learning	From relatively simple cognitive activities, such as taking notes, underlining To higher level cognitive activities, such as efforts to explain and organise	.85
Library	From routine, moderately exploratory use, such as using the card catalogue To increased amount of independent exploration and focused activity, as in browsing in the stacks, developing a bibliography	.77
Faculty	From routine and casual experience with faculty To more serious contacts, such as discussing careers, inviting criticisms, seeking counsel	.87

SCALE	DIMENSION	RELIABILITY (Coefficient Alpha)
Writing	From general concern with words, grammar, revisions To seeking criticism from others, greater concern with clarity and style	.76
Self-Understanding	From general curiosity about one's own behaviour, and that of others, for example, talked with friends To more focused and expertly informed sources of self-understanding, as in reading, taking a test, talking with a counsellor	.82
Students	From making friends with different kinds of people, a matter of breadth To serious conversations with people who differ from you, a matter of depth	.86
Conversation: Topics	From personal and interpersonal topics of immediate experience, such as jobs, movies, social events To intellectual and cultural topics concerning values and social issues	.81
Conversation: Discourse	From conversations in which information about the topic is relatively casual and infrequently introduced To conversations that typically have expertise, knowledge and persuasiveness brought to bear on the topic	.78
Union	From casual and informal use of the student union e.g. had snacks, met friends, etc. To programmatic use, e.g. attended events, held meetings, etc.	.85
Clubs	From awareness of club events and organisations To attending events, discussing programs, working in organisations	.89
Athletics	From generally informal use of athletic and recreational activities To greater efforts towards improvement and skilled performance	.90
Art-Music-Theatre	From talking about art, music and the theatre and attending exhibitions and performances To efforts towards greater understanding, e.g. seeking the views of experts and critics, as well as personal involvement	.88
Research	From basic activities concerned with theoretical, research and other scholarly considerations of Education To such activities as initiating and executing such activities, voluntarily	.87
Teaching Practice	From basic and conventional activities To the initiation and execution of such activities that would represent a deeper involvement	.89

Set out in the Table, in addition to the twelve scales due to Pace, are two further scale titles and their corresponding Quality of Effort dimensions. These scales are labelled as "Research" and "Teaching Practice", respectively, and, as can be noted, these two scales refer to specific elements of a college or university teacher education program and experience. "Research" is an abbreviation for the name of a scale that measures that aspect of teacher education that involves the student in pursuits related to the theoretical, academic and scholarly aspects of studies in Education as an academic discipline, while "Teaching Practice" is a scale to measure involvement, initiative, participation and energy, invested in that aspect of teacher education that centres in the teaching practicum.

2.3 Some Psychometric Aspects of the Quality of Effort Scales

For each item in each of the fourteen scales used, students were asked to consider the particular activity and then to indicate the extent to which the particular activity has been engaged in, over "this year", this indication being on a four-point scale [1 = never; 2 = occasionally; 3 = often; 4 = very often]. The twelve original Pace scales were mostly of ten items only, in length, but the two scales developed especially for this project, viz. "Research" and "Teaching Practice", respectively, were substantially longer, which was an aspect of their experimental nature.

The reliabilities (Coefficient Alphas) of all fourteen scales were particularly high, as is indicated in the same Table that sets out the scales and their dimensionalities. The reliabilities of comparable scales in United States administrations are equally high (Pace, 1984). There is a vast amount of evidence that Pace and his graduate students have collected, concerning the validity and reliability, and overall quality of measurement, that has been achieved via the Quality of Effort scales (Pace, 1984). In this present application of the scales in this Australian study in teacher education, there is also much evidence of predictive, concurrent and construct validity of the Quality of Effort scales, as will be seen in the syndromes to be later presented, that involve the Quality of Effort variables.

3. PREDICTION OF WHAT STUDENT TEACHERS DO

3.1 What Predictors Shall We Use?

As has been already noted, the domain which has been referred to in terms of what students actually do in their teacher education, may also be referred to as the Quality of Effort domain, with the component variables in this domain being measured by the various Quality of Effort scales, which are fourteen in all.

Also already noted is one of the major aims of this study, viz. to relate a domain of variables that might be termed predictors or antecedents or possible determinants of Quality of Effort, to the Quality of Effort domain.

It has been earlier mentioned that this domain of predictors or antecedents or possible determinants of Quality of Effort comprises twenty-three variables. This domain of what we might, for simplicity, call predictors of Quality of Effort, will in fact be broken up into a number of smaller predictor domains, each of these smaller domains itself comprising a family of kindred variables. Each of these smaller predictor domains will, in turn, be related to the Quality of Effort domain, in an attempt to find out something about the dynamics by which, or out of which, Quality of Effort arises. In simpler terms, we will be seeking answers to the question of what lies behind, or what gives rise to, what students do in their teacher education.

The first predictor domain will be what might be called a **Structural** domain, this consisting of variables concerning a student's age, sex, residential status (living in

a hall of residence, or being a commuter from nearby or further afield), and institution attended. These variables are essentially of a biological, biographic or demographic kind.

The second domain being considered as a possible predictor of Quality of Effort is what might be termed an **Academic** domain, this domain comprising three variables, viz. Tertiary Entrance (TE) Score, Motivation for Grades, and Study Habits. Motivation for Grades and Study Habits were measured by scales which constituted part of the questionnaire used to gather information from the students. The report of the wider project, Genn (1985), gives pertinent details. The scales for Motivation for Grades and for Study Habits were adaptations of earlier work by Peterson (1965).

The third domain being considered as a possible predictor of Quality of Effort, is what might be called a **Personal** domain, this domain comprising four variables concerning the goals of higher education which the student personally espouses or values. Four scales were used, measuring, respectively, the extent to which the student espouses higher education goals pertaining to furtherance of **Vocational** training and development, furtherance of knowledge, understanding and appreciation of **Humanities** studies, furtherance of progress and development in **Critical Thinking**, and furtherance and enhancement of Personal and Social development. (This latter aspect of development will be henceforth in this paper referred to as **Relationships**.) Details on this measurement of personal goals in this Personal domain are available in the report of the wider study (Genn, 1985).

The fourth domain being considered here as a possible predictor of Quality of Effort, is what might be called an **Environmental** domain. It was considered important to have some measures of the environment as perceived by students, in view of basic Lewinian theory (Lewin, 1936) to the effect that the characteristics of both the student and the perceived environment are, potentially, determinants of student behaviours. [Behaviour (B), is a function of the Person (P), and the Environment (E), as expressed in the formula: $B = f(P,E)$]. The perceived environment is the real environment a particular student inhabits, and the environment most likely to influence his or her behaviour. On these accounts, it was considered important to measure this perceived environment. What is more, for reasons supplied in the report of the wider study (Genn, 1985), it was considered useful to measure these perceptions along essentially the same kinds of dimensions that had been used to measure the dynamics of the student, in the just-discussed Personal domain, where the Person, or student, was measured in terms of commitment to certain educational goals.

The Environmental domain in this study comprised eight variables. Four of these variables concerned the individual student's perception of the extent to which the student body, as a whole, in his or her institution, subscribed to the possible goals of higher education that have just been noted, as concerning, respectively, furtherance of Vocational development, of development in the Humanities, of development in Critical Thinking and of development in Relationships. The other four of the variables in the Environmental domain concerned the student's perception of the extent to which the academic staff, in his or her institution, espoused these same goals, viz. the goals pertaining to Vocation, Humanities, Critical Thinking and Relationships, respectively. Obviously, in this course of action, the dominant aspects of a particular student's environment, in the educational institution, were deemed to be the student's fellow students, and his or her teachers, and particularly the ethos of the institution, as reflected in the dominant goal patterns of students and of teachers. Details concerning measurement in this Environmental domain are available in the report of the wider project (Genn, 1985).

3.2 What Kinds of Student Teachers Do What Kinds of Things?

3.2.1 Description of the Analyses to be Made

Here we come to the setting out of those psycho-social-educational syndromes which have been earlier mentioned, and which will serve as something like maps of the dynamics of aspects of the teacher education process that students undergo, or undertake. These syndromes have also earlier been referred to as indicators of the variety of pathways to learning that different kinds of students follow.

These syndromes are the outcome of a relatively complex statistical procedure, canonical correlation analysis, which allows us to discern one or more ways in which two domains of variables can be related (Cooley and Lohnes, 1971, 1976). In the first instance, what happens is that a particular patterning of variables in one domain is linked with a particular patterning of variables in the other domain. The strength of the relationship of the two patterns is indicated by the size of the canonical correlation coefficient, and the nature of the relationship is described by a syndrome that links the two associated patterns. Sometimes it is possible for this kind of procedure to happen a second or third time, or even more, with each time leading to a new patterning of variables in one domain being linked with a new patterning of variables in the other domain, and a new canonical correlation coefficient expressing the strength of the relationship of the patterns, and a corresponding new syndrome linking the patterns.

In analyses to be described hereunder in this Section 3, the domain of variables that we have referred to as comprising what students actually do, or, more specifically, as comprising students' Quality of Effort, will always be present, as the domain which is being predicted, or explained or dependent upon another domain, which might be viewed as a predictor domain. There will, in fact, be four predictor domains, each of which is concerned with a particular family of student attributes or characteristics. These domains have earlier been noted and named as the Structural, Academic, Personal and Environmental, respectively. Thus the four analyses to be described here, in turn, will be as set out below:

Structural Domain	linked with	**Quality of Effort Domain**
Academic Domain	linked with	**Quality of Effort Domain**
Personal Domain	linked with	**Quality of Effort Domain**
Environmental Domain	linked with	**Quality of Effort Domain**

3.2.2 Structural Attributes of Students Related to Their Quality of Effort

As earlier noted, the Structural domain contains variables representing a student's age, sex, residential status (hall of residence or commuter from close-by or further afield), and institution attended. So what we are interested in here is the extent to which age, sex, residence and institution are linked with Quality of Effort, and how these variables are linked with Quality of Effort. The analysis may be represented as follows:

Structural Domain	linked with	Quality of Effort Domain
Age Sex Residence Institution		Fourteen variables representing activity, involvement

The outcomes of the analysis of the relationship between the Structural domain and the Quality of Effort domain were interesting enough, even if fairly predictable.

The first syndrome that emerged, describing a way in which the two domains were linked, was associated with a canonical correlation coefficient of .60, which indicates the magnitude of the relationship the syndrome describes. The essential nature of the syndrome could be stated thus:

> Being young, and in certain institutions rather than others
>
> is linked particularly with:
>
> Involvement in activities measured by the Quality of Effort scales for Self-Understanding, Union and Clubs

The next syndrome that emerged, describing a new way in which the Structural and Quality of Effort domains were linked, was associated with a canonical correlation of .50, again indicating a substantial relationship. The essential nature of the second syndrome could be stated thus:

> Being older, female and living at a distance from campus rather than on or near it
>
> is linked particularly with:
>
> Involvement in activities measured by the Quality of Effort scales for Learning and Writing, and a neglect of activities measured by the scale for Athletics

3.2.3 Academic Attributes of Students Related to Their Quality of Effort

The Academic domain, as earlier noted, comprises three variables, viz. the TE (Tertiary Entrance) Score, Motivation for Grades, and Study Habits. Interest here is in linking this domain with the Quality of Effort domain, to discover what kinds of academic attributes are associated with what kinds of student activity or Quality of Effort. Set out below is the analysis to be made:

Academic Domain	linked with	Quality of Effort Domain
Tertiary Entrance (TE) Score Motivation for Grades Study Habits		Fourteen variables representing activity, involvement

The two syndromes which emerged in this analysis were again interesting, and the second particularly so, because it was less predictable.

The first syndrome that emerged, describing a way in which the Academic and Quality of Effort domains were linked, was associated with a canonical correlation of .54, which, as has been already noted, indicates the magnitude of the relationship the syndrome describes. The essential nature of the syndrome could be stated thus:

Being motivated to obtain good grades, and having good study habits

is linked particularly with:

Involvement in activities measured by the Quality of Effort scales for Learning, Library, Writing, and Teaching practice.

The second syndrome that emerged, describing the next way in which the Academic and Quality of Effort domains were linked, was associated with a canonical correlation coefficient of .32. The essential nature of this second syndrome could be stated thus:

A high TE (Tertiary Entrance) Score and high motivation for grades

is linked particularly with:

Low involvement in activities measured by the Quality of Effort scales for Students, Union, Clubs, Athletics and Art-Music-Theatre.

3.2.4 Personal Attributes of Students Related to Their Quality of Effort

The Personal domain of variables, as has been already noted, is made up of four variables that describe the personal characteristics of the student in terms of his or her endorsement of the importance or otherwise of goals for higher education that are concerned with fostering, respectively: (i) development of a Vocational kind, (ii) development in the field of the Humanities, (iii) development of Critical Thinking abilities, and (iv) development of Relationships.

This Personal domain, made up of these four goal variables, was related to the Quality of Effort domain, with the analysis task being represented as follows:

Personal Domain	linked with	**Quality of Effort Domain**
Personal Goals in: Vocation Humanities Critical Thinking Relationships		Fourteen variables representing activity, involvement

When the two domains were related, by the canonical correlation procedure, two educationally and psychologically meaningful syndromes emerged, each of considerable interest, and each, perhaps, fairly predictable.

The first syndrome linked a particular patterning of the variables in the Personal (goals) domain with a particular patterning of the Quality of Effort variables, the relationship between the two patterns being represented, in magnitude, by a canonical correlation coefficient of .46. The essential nature of this first syndrome could be described as follows:

A student's being an advocate of goals for higher education that involve fostering of the Humanities and of Relationships

is linked particularly with:

Involvement in activities measured by the Quality of Effort scales for Library, Writing, Self-Understanding, Conversation: Topics, Conversation: Discourse, Art-Music-Theatre, and Teaching Practice.

The second syndrome emerging from the linkage of the Personal domain with the Quality of Effort domain was, of course, based on a new pattern of the Personal domain variables joined to a new pattern of the Quality of Effort variables, with the

magnitude of the relationship between the two patterns indicated in a canonical correlation coefficient of .32. The essential nature of this second syndrome is describable as follows:

> A student's being an advocate of goals for higher education that emphasise fostering of both Vocational development and development of Critical Thinking
>
> is linked particularly with:
>
> Involvement in activities measured by the Quality of Effort scales for Learning, Writing and Research and a neglect of activities measured by the Quality of Effort scale for Union.

3.2.5 Student's Perceptions of Their Educational Environment, Related to Their Quality of Effort

The Environmental domain, as has been noted, comprised eight variables, four of these being concerned with the perceptions a student had of his or her fellow students' endorsement of certain educational goals for higher education, and the other four being concerned with the individual student's perception of the extent to which these same educational goals were endorsed by the student's teachers. The goals of higher education were, as we have noted, the same as those used to measure the individual student's goals, in the Personal domain considered earlier, viz. the goals concerned with fostering Vocational development, development in the Humanities, development in Critical Thinking, and development in Relationships, respectively.

This Environmental domain was related to the Quality of Effort domain, the format below indicating the nature of the analysis task.

Environmental Domain	linked with	**Quality of Effort Domain**
Perceptions of Goals of the Student Body concerning: (i) Vocation (ii) Humanities (iii) Critical Thinking (iv) Relationships		Fourteen variables representing activity, involvement
Perceptions of Goals of the Academic Staff concerning: (i) Vocation (ii) Humanities (iii) Critical Thinking (iv) Relationships		

The first syndrome that emerged, linking a pattern of Environmental domain variables with a pattern of Quality of Effort variables, was fairly readily interpretable and understandable, and quite interesting. The canonical correlation coefficient, indicating the size of the relationship between the Environmental pattern and the Quality of Effort pattern, was .44. The syndrome is describable in the following terms:

> Perceiving the goals of the student body as emphasising Humanities and Relationships, and perceiving the goals of the academic staff as emphasising the Vocational, Humanities and Relationships
>
> is linked particularly with:
>
> Involvement in activities measured by the Quality of Effort Scales for

Learning, Library, Faculty, Writing, Self-Understanding, Union, and Teaching Practice.

The second syndrome, linking a new pattern of Environmental variables with a new pattern of Quality of Effort variables, is somewhat more challenging for the interpreter, although not devoid of meaning, and perhaps contributing some unexpected meanings that may be important, even if a trifle elusive. The corresponding canonical correlation coefficient, indicating the strength of the linkage between the two components of the syndrome, was .32. The syndrome itself is describable thus:

> Perceiving the goals of the student body as emphasising Humanities, and perceiving the goals of the academic staff as de-emphasising both the Humanities and Critical Thinking
>
> is linked particularly with:
>
> Involvement in activities measured by the Quality of Effort scales for Athletics and Research, and a neglect of involvement in activities measured by the scales for Faculty and Writing.

4. OUTCOMES OF WHAT STUDENT TEACHERS DO

4.1 Educational Outcomes and Their Measurement

The two major outcomes of the educational process, whether enunciated by educational practitioners or theorists, are almost unquestionably the achievement of the students and the satisfaction of the students.

The measurement procedures employed in this study for the assessment of each of these outcomes, in turn, will now be outlined.

4.2 Measurement of Achievement

Ideally, in this study, we would have employed some measures of student achievement, in both theoretical-academic studies and in the practicum or teaching practice. However, lack of standardisation of assessment procedures across teacher education institutions, and, of course, lack of standardisation of courses, precluded the use of this otherwise ideal procedure.

There was, however, some apparent merit in the procedure chosen to assess achievement for all students in all institutions sampled, and that procedure was one employed by Pace and associates in a number of studies (Pace and associates, 1971, 1975; Pace, 1984), where the researchers asked students to estimate the gains they had achieved as an outcome of their college or university experience. The kinds of gains that were assessed in this present study were gains in those very same areas as were singled out in earlier measurement, in this study, of variables in the Personal domain and the Environmenjal domain. That is, students were asked to indicate the gains or benefits they believed they had achieved with respect to, respectively, their Vocational progress and development, their progress and development in the fields of the Humanities and of Critical Thinking, and their development of themselves as persons and social beings, in the area we have earlier designated simply as Relationships. These gains will be termed Benefits, and the four aspects of achievement or gains or benefits will be termed, respectively, Benefits: Vocational, Benefits: Humanities, Benefits: Critical Thinking, and Benefits: Relationships. Details concerning the measurement of achievement in this study are available (Genn, 1985).

4.3 Measurement of Satisfaction

Student satisfaction was measured by use of some scales based on work by Peterson (1965), with details of actual procedures used being available in the report of the wider study (Genn, 1985). Four scales were used, that measured, respectively (i) the satisfaction the student reported concerning the teaching he or she had received, (ii) the satisfaction of the student with his or her major field of study (which, in the case of all students, was Education), (iii) the satisfaction of the student with the attributes and behaviours of his or her fellow students, and (iv) the satisfaction of the student with the policies and practices of the administration of the institution. These scales will be henceforth in this paper referred to, respectively, as Satisfaction: Teaching, Satisfaction: Major, Satisfaction: Students, and Satisfaction: Administration.

4.4 What Kinds of Student Teachers' Activities Lead to What Kinds of Educational Outcomes?

4.4.1 Description of the Analyses to be Made

The first analysis to be made will link the domain concerned with what students actually do in their teacher education, to the achievement that students gain, as an outcome of their teacher education. More specifically, the Quality of Effort domain will be linked with the Achievement domain, in an attempt to gain an answer to the question of what kinds of student activity and effort in teacher education are linked with what kinds of achievement outcomes for the students. The analysis is as follows:

Quality of Effort Domain	linked with	**Domain of Achievement Outcomes**

The second analysis will link the domain concerned with what students actually do in their teacher education, with the satisfaction students experience, as an outcome of their teacher education. More specifically, the Quality of Effort domain will be linked with the Satisfaction domain, in an attempt to gain an answer to the question of what kinds of student activity and effort in their teacher education are linked with what kinds of satisfaction outcomes for the students. This analysis is as follows:

Quality of Effort Domain	linked with	**Domain of Satisfaction Outcomes**

4.4.2 What Student Teachers Do in Their Education, as Related to the Achievement of the Students

The interest here is in applying the canonical correlation procedure to link the Quality of Effort domain with the Achievement domain, the Quality of Effort domain being viewed as something of an antecedent or determinant or predictor of the Achievement domain. The specifics of the analysis are set out in the following format:

Quality of Effort Domain	linked with	**Achievement Domain**
Fourteen variables representing activity, involvement		Benefits: Vocational Benefits: Humanities Benefits: Critical Thinking Benefits: Relationships

The analytical procedure gave rise to two syndromes, each readily interpretable and theoretically and practically significant.

The first syndrome, linking a pattern of Quality of Effort variables with a corresponding pattern of Achievement domain variables, was based on a canonical correlation of .53, expressing the magnitude of the relationship between the two contributing patterns. The psycho-social-educational richness of the syndrome could be described thus:

> Involvement in all the activities measured by the Quality of Effort scales, and especially by those scales for Learning, Library, Self-Understanding, Union, Clubs, Art-Music-Theatre, and Teaching Practice
>
> is linked with:
>
> Achievement in all areas, as measured by the scales for Benefits: Vocational, Benefits: Humanities, Benefits: Critical Thinking, and Benefits: Relationships.

The second syndroms that emerged, in this relationship of the Quality of Effort domain to the Achievement domain, was derived from a new patterning of the Quality of Effort variables joined to a new patterning of the Achievement variables, the strength of the linkage between the patterns being represented by a canonical correlation coefficient of .28. The nature of this syndrome could be set out as follows:

> Involvement in activities measured by the Quality of Effort scales for Art-Music-Theatre and for Writing, and neglect of those activities measured by the scales for Self-Understanding, Conversation: Topics, and Athletics
>
> is linked with:
>
> Achievement, as measured by the scale for Benefits: Humanities, but relative lack of achievement as measured by scales for Benefits: Vocational, Benefits: Critical Thinking, and Benefits: Relationships.

Interesting as this syndrome is, and provocative too, the syndrome simplifies down to a linkage between involvement in Art-Music-Theatre activities, on the one hand, and a lack of achievement as measured by the Benefits: Relationships scale, on the other, if only the really dominant variables in each side of the syndrome are highlighted. This simplified syndrome is, of course, interesting and provocative, too.

4.4.3 What Student Teachers Do in Their Education, as Related to the Satisfaction of the Students

To study the relationship of (i) what student teachers actually do, in their education, to (ii) the satisfaction of students with their education, the fourteen-variate domain of Quality of Effort variables was linked, via canonical correlation techniques, with the four-variate domain of Satisfaction variables. The Satisfaction domain served as a dependent domain, which was viewed as being predicted or explained or determined by the antecedent domain of Quality of Effort variables. The analysis is as follows:

Quality of Effort Domain	linked with	**Satisfaction Domain**
Fourteen variables representing activity, involvement		Satisfaction: Teaching Satisfaction: Major Satisfaction: Students Satisfaction: Administration

Two syndromes will be noted here, each arising from a particular pattern of variables from the Quality of Effort domain with a corresponding particular pattern

of variables from the Satisfaction domain. Each syndrome thus shows a conjunction of a particular set of student activities and a particular set of satisfactions. The syndromes are quite readily interpretable and indeed believable, and communicate valuable insights into the dynamics of varying ways in which varying kinds of Satisfaction patterns may arise.

The first syndrome was associated with a canonical correlation coefficient of .38, which indicated the magnitude of the association of the pattern of Quality of Effort variables and the linked pattern of Satisfaction variables. The description of the essential nature of this syndrome is as follows:

> Involvement in activities measured by Quality of Effort scales for Learning, Library, Faculty, Conversation: Discourse, and Research, and a neglect of activities measured by scales for Self-Understanding, Union, and Clubs
>
> is linked particularly with:
>
> Satisfactions, as measured by the scales for Satisfaction: Teaching, Satisfaction: Major, and Satisfaction: Administration.

The second syndrome, associated with a canonical correlation coefficient of .32, showed another way in which student activities are linked with satisfaction outcomes. The pattern of Quality of Effort variables and the associated pattern of Satisfaction variables is indicated in the following description of the syndrome:

> Involvement in activities measured by the Quality of Effort scales for Learning, Library, Self-Understanding, Union, Clubs, Art-Music-Theatre, and Teaching Practice
>
> is linked particularly with:
>
> Satisfaction, as measured by the scale for Satisfaction: Major, and a relative dissatisfaction as recorded by the scales for Satisfaction: Students, and Satisfaction: Administration.

4.5 Some Further Analyses of the Relationship Between What Student Teachers Do, and Educational Outcomes

Using some relatively complex statistical procedures, viz. redundancy analysis and commonality analysis, further analyses were made of the power of the Quality of Effort domain to explain or predict the outcome domains of Achievement and Satisfaction, respectively (Cooley and Lohnes, 1971, 1976; Keeves, 1974; Pedhazur, 1982).

These analyses, described in the report of the wider study (Genn, 1985), showed that the Quality of Effort domain, when added to the Structural, Academic, Personal and Environmental domains, leads to an increase in the extent to which the outcomes of Achievement and Satisfaction are predictable. No one would be surprised to learn that each of the domains we have called Structural, Academic, Personal and Environmental, is an effective predictor of both the Satisfaction and Achievement domains, and the analyses reporting these predictive relationships have not been described in this paper. What is important, and novel, is the discovery that the Quality of Effort domain has something unique and special to add, where the prediction of the outcomes of Achievement and Satisfaction is concerned, i.e. the Quality of Effort domain has a unique, independent and special contribution to make, and over and above that contribution to the prediction of outcomes achieved by the conventional predictors comprising the Structural, Academic, Personal and Environmental domains.

In simpler terms, and echoing Pace's (1984) comments on essentially similar findings he obtained in similar analyses to those we have just been noting, we might

say here that the outcomes of Achievement and Satisfaction in the educational lives of students depend not only on who they are and where they are but also on what they do.

5. THE IMPORTANCE OF WHAT STUDENT TEACHERS DO

5.1 Quality of Effort of Student Teachers as Especially Important

The importance of what all students in higher education do, in the gaining of their education, is clearly not in doubt. What they do, in terms of the educational and developmental processes they engage in, is a matter of profound significance, because the quality of educational and developmental experience is of profound significance, as a means to educational ends, and as an educational end, in itself.

But if what all students do, or, in terms we have used in this paper, if the Quality of Effort, characterising all students, is of great importance, then the importance of the Quality of Effort characterising student teachers seems, somehow, doubly important. This is so, for the obvious reason that student teachers are indeed preparing to be teachers, especially of the young. As future teachers, those at present called student teachers will serve as instructors, role models, facilitators, communicators, providers of challenge, spurs to initiative, and in so many other ways too, in fostering the learning, growth and development of infants, children and young people, generally.

5.2 What is Teacher Education All About?

What is teacher education all about? Those who emphasise or talk of a competency-based model, for example Schmieder (1973) and Gage and Winne (1975), have a list of abilities, skills and competencies that the student teacher must learn, develop or otherwise achieve and acquire. Such attributes are needed so that the student will be an effective and efficient teacher, ready to deal with the "reality shock" of entering the real world of teaching (Veenman, 1984), and to deal with that real world, day-by-day, into the future. Those who advocate what has been termed a humanistic approach to teacher education, for example Combs et al. (1969, 1971, 1977) and Blume (1971), do not seem to deny the importance of competency acquisition, but make what might appear as a contradictory statement, to the effect that teacher education is not a question of learning to teach but a matter of personal discovery, of learning how to use one's self and surroundings to assist other persons to learn.

5.3 Linking Quality of Effort of Student Teachers with Quality of Their Subsequent Work as Professional Teachers

Leaving aside the controversy between competency-based and humanistic teacher educators, while believing the controversy is not as great as it might seem, there seems to be value for us here in picking up this thought of the humanistic teacher educators, that teacher education is a matter of personal discovery, of learning how to use one's self and surroundings to assist other persons to learn.

This thought seems particularly pertinent here, to our concern in this whole paper with the student's Quality of Effort invested in his or her teacher education. This Quality of Effort of the student teacher, as it has been conceptualised and measured in this study, seems virtually identical with the matter of the student's personal discovery and of learning how to use self and surroundings to foster his or her learning, growth and development. The Quality of Effort construct, it will be recalled, stresses notions of initiative, energy, involvement and participation of the student, in selecting and acquiring educational experiences arising from the opportunities and facilities the college or university provides. If teacher education,

according to the humanistic view, is a matter of the student teacher's personal discovery and of learning how to use self and surroundings to assist other persons to learn, then the student teacher's Quality of Effort, as construed and measured in this study, is a matter of his or her personal discovery and of learning how to use the self and surroundings to assist the student teacher, himself or herself, to learn, while in the college or university teacher education program.

The link between assisting other persons to learn, which is the role of the professional teacher, and assisting one's self, as a student teacher, to learn, has been considered by teacher educators, especially of the humanistic view, to some degree, but usually in terms of statements to the effect that student teachers, when teachers, will foster learning in the same way as they have learned when students. Such a statement, though possibly true, does not appear to have a strong basis in research, neither does the also possibly true and more positive corollary to that statement, to the effect that student teachers need to experience for themselves the kinds of learning that, it is hoped, they in turn will foster for children and young people in the classes the student teachers eventually, as professional teachers, will teach (Combs et al., 1969, 1971, 1977).

It would seem to be a research project of major significance, to investigate the nature and degree of relationship that exists between the Quality of Effort that student teachers invest in their education as teachers, and quality of the professional activities and behaviours that these students later engage in, when they are qualified and practising teachers. This quality dimension, with regard to professional teacher activities and behaviours, would pre-eminently and centrally concern the quality of the learning that the teacher was able to foster, in the learners for whose learning, growth and development the teacher was responsible. This quality dimension in the teaching profession should also, however, include consideration of what Joyce and Clift (1984) refer to as the most pressing tasks of all, for teachers, viz. to implement needed reforms in schools and to assume responsibility for their own growth and development as teachers.

6. REVIEW AND SUMMARY DISCUSSION

The main features of this paper, along with some concluding comment, may be set out as follows:

6.1 Focus of Paper

The paper focused on what students actually do, in their education as teachers in teacher education departments in both the College of Advanced Education and University sectors, in Queensland. The aim of the paper, essentially, was to help all persons interested in teacher education to find out more about what the student teachers actually do, and then to use information about what student teachers do, to study two other matters of importance. One such matter was to determine what kinds of student teachers did what kinds of things in their teacher education. The other matter of importance was to find out more about the linkages between, on the one hand, the activities the student teachers undertake in their teacher education, and on the other hand, the kinds of educational outcomes, particularly achievement and satisfaction, in the lives of the student teachers.

6.2 A New Procedure for Determining What Students Do

The paper describes an idea, due to Pace (1984), of something he called Quality of Effort, and sets out procedures by which this Quality of Effort of student teachers was measured in this study, in order to find out what students actually do in their education as teachers.

6.3 The Prediction of What Students Do

The paper gives much attention to discovering variables that seem to lie behind, or give rise to, Quality of Effort of student teachers. Inasmuch as Quality of Effort is a multivariate domain, and the predictors of Quality of Effort were also constituting a number of domains, each multivariate, the relationships between the Quality of Effort domain, and the various predictor domains in turn, were presented in a series of syndromes. These syndromes appeared to encapsulate the essential psycho-social-educational dynamics underlying the emergence and manifestation of Quality of Effort. The syndromes are referred to as somewhat resembling pathways to learning, indicating, as they do, the different kinds of students and the different kinds of learning activities and processes in which they engage.

6.4 Educational Outcomes as Dependent on What Students Do

The paper also gives much attention to the mapping of the dynamics by which each of the two prime educational outcomes, viz. Achievement and Satisfaction, arises. Syndromes are derived, some showing how particular patterns of Quality of Effort are linked to particular patterns of Achievement, and others showing how other particular patterns of Quality of Effort are linked to particular patterns of Satisfaction. These syndromes are likened in the paper to pathways to fulfilment.

6.5 Significance of the Findings

An important outcome of the work reported in this paper is that it shows that measurement of the educational process which student teachers or other higher education students undergo or undertake, is possible, in terms of the Quality of Effort that characterises the students.

A second outcome of value lies in the syndromes that have been discovered, that show, dynamically, not only how Quality of Effort arises, but also how this Quality of Effort leads to important educational outcomes. It is possible that such dynamic kinds of information about teacher education might help teacher educators, and administrators and counsellors in teacher education, to assist student teachers not only towards a Quality of Effort that is more developmentally desirable, but eventually towards stronger Achievement and greater Satisfaction, in their education as teachers.

A further feature of the study and discussion reported in the paper is that it moves the research frontier closer to the testing of the implicit hypothesis noted in the paper, concerning possible relationship between, on the one hand, the student teacher's Quality of Effort in teacher education, and, on the other, the quality of learning that the student teacher, once becoming a professional practising teacher, is able to engender, establish, initiate and encourage, in the learners for whom the teacher is responsible.

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EDUCATING BACHELOR OF EDUCATION STUDENTS THROUGH SELF-MANAGED LEARNING GROUPS (S-MLG)

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BACKGROUND TO THIS STUDY

In 1980, some members of the Education Studies Department at the Brisbane College of Advanced Education initiated Self-Managed Learning Group (S-MLG) experience among a group of adult learners, all practising teachers pursuing a B.Ed. degree (Haines, Symes and Chipley, 1981).

We initiated the S-MLG strategy because we felt that adult professionals deserve to have the freedom to choose how they will pursue their advanced studies; e.g. they at least have the right to determine how they wish to learn core information already set for them by tertiary institutions.

We agreed that although adult professionals may find it difficult to influence the knowledge content set for them, it was still possible for these learners to have a say on how this content was to be learned or studied.

Hence, one fundamental characteristic of S-MLG is the belief that adult learners can control the processes of learning. A second characteristic of S-MLG is the conviction that knowledge is a social product. Simply put, people get together and share experiences under the umbrella of a very complicated social network. They interact with given content, negotiate over its meaning, and set into motion a complex chain of events.

Characterising knowledge as a social product does notes not appear to be an unusual characteristic. Ordinarily most of us feel that what we learn occurs through some sort of sharing experience, a large portion of this experience occurring within a social context. Even so, when we examine the sort of things that take place in classroom situations, we gain the distinct impression that learning must be a very private experience. We isolate students from one another; we provide them with their own

text books, and other instruments for learning; as well we often chastise them when they interact with fellow students.

The S-MLG experience encourages adult learners to explore the possibility that learning is not basically a private experience, but instead a shared one. The implications of this for the practising teacher are obviously important. For among other things, the S-MLG process calls into question classroom situations that may prevent students from communicating or sharing learning experiences with one another.

Although the S-MLG process can open a pandora's box of educational issues, our studies in S-MLG were not intended to be so grandiose; we have merely sought to determine if the S-MLG experience could benefit adult learners. To determine this, we have placed adult learners in situations that (1) tend to turn over the controls of learning to the student and (2) provide students with an opportunity to experience shared learning. In these S-MLG situations the dominant question has always been: Will these students efficiently learn core or set knowledge working together as an autonomous group?

PRESENT S-MLG EXPERIENCE

Previous S-MLG experiences involved on-campus B.Ed. students. This particular effort involved a group of external students who were also pursuing B.Ed. degrees. In many respects the present S-MLG experience replicates the experiences that on-campus B.Ed. students have had with S-MLG. These experiences are threefold: (1) academic, (2) development of interpersonal relationship skills, and (3) personal development.

A target group of six external students was chosen for S-MLG. These students had a common enrolment; they were enrolled in PFE901 (Philosophical Foundations of Education unit). As well, these students lived in the same geographical area and thus contacting one another would not present much difficulty. We provided these students with reading and audio-visual materials, hopefully to provoke discussion and enhance:

(1) the sharing of knowledge, and

(2) group autonomy.

These students came together one evening a week for thirteen weeks. A secretary made notes of group experiences while an evaluator visited the group on at least two occasions to observe the group process.

Before these students commenced the S-MLG experience they were told that the overall group experience would eventually be evaluated in terms of the following:

(1) Could individuals within the group efficiently learn how to critically evaluate the issues raised in PFE901?

(2) Students were asked to work closely and cooperatively with one another, while applying self-management skills to the group. Could these students work as self-starters and organise the content of PFE901 in a way that was most suitable for the group as a whole, rather than merely follow the proposed format of the unit suggested by the Unit writer?

(3) Students were asked to use alternative approaches to learning, to be more self-directed and play a major role in determining not only what they were to learn but also how this learning process was to occur among the group. Could these students successfully overcome the isolation of being external students and share the learning process with one another?

How successful were these students in meeting the above aims? Before answering this question it should be made clear that the S-MLG process is not just another name for

a study group. The latter generally deals with a set outline, defined goals. Students involved with S-MLG can, like other students, begin their experience with the usual set texts, outlines, etc. However, S-MLG students are also asked to be self-directed in their learning and thus they can make significant modifications to unit outlines, suggested reading materials and assessment items.

The evaluation of this S-MLG experience reflects evaluations of previous S-MLG experiences with other students (Chipley, 1985). Briefly, these are as follows:

(1) There is considerable social benefit for students involved in S-MLG. The evaluation suggests that these students ". . . learned how to establish and participate in a teacherless learning group with other persons as active, relatively autonomous participants having different perspectives and skills";

(2) ". . . students acquired a stronger sense of self-iniative, self-confidence, self-analysis and self-understanding, all of which they were able to relate to their performances as practising classroom teachers";

(3) "At the end of this unit, students were able to articulate and support more clearly their own ideas about education and teaching, and they could distinguish critical differences between their own positions and those of others";

(4) From available evidence, we could not determine if S-MLG students learned the core or set knowledge more efficiently than if they had studied the core or set knowledge on their own, isolated from other students.

CONCLUDING REMARKS

The experiences that students have with S-MLG approaches to learning are generally positive. Although these students experience a certain amount of anxiety when they begin the S-MLG experience, they overcome this initial uneasiness. Much of this unrest is a result of the lack of structure, i.e. even though the students are provided with learning materials and suggested direction, they must make decisions on the use of materials and on the appropriate direction for the group.

Often, S-MLG situations encounter the unexpected, i.e. members of the group want to deal with materials that have not been suggested by the Unit writer. As well, members of the group wish to move in directions not previously considered or proposed by the Unit writer.

In addition to the above, some anxiety results from students encountering a new situation. For many students, the S-MLG process is certainly new. Previous schooling experience has not prepared many students to (1) assume control and direction over their own learning, and (2) learn in some cooperative fashion.

In spite of some initial difficulties with the S-MLG experience, most students find that the experience was worthwhile, as did this group of external students. Generally, their analysis of the experience was positive.

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PERCEPTIONS OF TEACHING PRACTICE: A LONGITUDINAL STUDY

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INTRODUCTION AND METHODOLOGY

The investigations reported in this study sought information on the opinions of fourth year experienced teachers concerning aspects of teaching practice, most of which had been examined previously in an evaluation study conducted at Kelvin Grove College of Advanced Education in 1978. The sample of teachers used in this study was drawn from the group of third-year students who participated in the 1978 evaluation study and who were teaching in 1982 in Queensland. Opportunities were also provided for supervising teachers in the sample to describe how they were able to fulfil that role so early in their career.

Data were collected by means of a questionnaire from 57 primary, 22 preschool and 127 secondary teachers. Sixty-two in the sample of 206 teachers had supervised at least one student by September 1982. The sample represented 31 per cent of the total 1978 enrolment of third-year Diploma of Teaching students. These numbers were considered to be satisfactory for what is in essence a follow-up study.

The teachers' responses provided data on four aspects of teaching practice:

(a) the length and frequency of third-year practice sessions;

(b) recommended changes to teaching practice programs;

(c) the objectives of teaching practice;

(d) the induction of supervising teachers.

CONCLUSIONS

The conclusions of this report are based on several trends that emerged from an analysis of the data using the Statistical Package for the Social Sciences.

(i) **A clear preference was given to the single six-week pattern of teaching practice for third-year students.**

Forty-seven per cent of the teachers strongly agreed that the six-week block was a highly successful pattern for third-year teaching practice, compared with 12 per cent who strongly agreed that two three-week sessions was a highly successful arrangement for providing third-year students with practical teaching experience.

Although support of the six-week session had changed very little since 1978, the pattern of two three-week sessions has gained more acceptance since then, to the extent that 56 per cent of the primary-preschool teachers and 23 per cent of the secondary teachers in the sample saw it as a viable alternative.

(ii) **Four-year-experienced teachers were willing to support the same changes to teaching practice that they, as third-year students, had recommended prior to their graduation from their college course.**

The three improvements that received most support were briefing days, increasing the amount of time in college courses for teaching practice and more careful selection and preparation of supervising teachers. Increasing the time that college lecturers should spend in visiting students was the recommendation that received least support.

(iii) **Gaining confidence in a teaching situation was selected as the most important objective of teaching practice from a list of twelve suggested objectives.**

Gaining experience in a teaching situation was ranked first in a suggested group of twelve objectives. The same result occurred in the STEP Project (Campbell et al., 1976), and in the Kelvin Grove evaluation. The four-year-experienced teachers ranked the objective, to find out if students are suited to teaching, second in importance. This contrasts with their perceptions four years earlier, when it was ranked seventh and eighth.

(iv) **Between one-third and one-half of the supervising teachers in the sample were very satisfied with the way they had fulfilled their responsibilities to their students in selecting appropriate subject matter and teaching tasks, assisting with lesson and unit planning, providing useful feedback and offering a degree of independence to develop an individual teaching style.**

A much greater degree of confidence emerged in the supervising teachers' recounting of their introduction to student supervision than was anticipated. As few as six believed that supervision was less effective in 1982 than it was when they were students, and this indirectly bears out the group's confidence in their supervisory role. Difficulties they encountered included instances of lack of time, unresponsiveness and unpreparedness of students and a lack of understanding of what was expected of the supervising teachers and of the students.

(v) **The supervising teachers in the sample reported that the main difference between their approach to supervision and that of the teachers who had supervised them in their pre-service course was as their development of a collegial relationship with students.**

It may be inferred from the responses of the "beginning" supervising teachers in this study that the major dissatisfaction they had as students in 1978 (apart from an obvious dissatisfaction with feedback they received on their teaching) was that many were treated as "students" rather than "colleagues". (A more recent study of Kelvin Grove students (Meade et al., 1981) suggests that a considerable improvement had taken place in interpersonal relationships.)

(vi) **When first called upon to supervise students, teachers obtain advice and information on their new role from many sources**

There were five major sources of advice and information that the "beginning" supervising teachers turned to for guidance. These were: fellow teachers, school coordinators, college handbooks, college lecturers and subject masters. These were also described by the teachers as being the most helpful.

(vii) **Inexperienced supervising teachers could best be assisted in the short term by college supervising lecturers visiting practising schools well before students commence their sessions**

The purposes of the visits should be:

(a) to communicate agreed-upon expectations;

(b) to provide information about students' backgrounds, needs, problems, preparation for teaching practice and previous practical experiences;

(c) to conduct workshops on supervision and assessment skills.

It was obvious from the written comments of the supervising teachers that meetings with college staff were seen as the most appropriate means of forging closer links between the training institutions and the schools to overcome the perennial problems of role ambiguity and theory-practice anomalies.

(viii) **There were very few significant differences in perceptions of teaching practice between**

(a) the primary/preschool and the secondary teachers;

(b) the supervising and the non-supervising teachers.

Although all trends pointed to similarities among the various categories of teachers, the differences that emerged provided a deeper understanding of the many variables that impinge on teaching practice.

Support for the six-week block was significantly stronger amongst the secondary teachers. They gave it such overwhelming support because they saw it facilitating continuity of experience, unit planning, professional relationships, and in providing a long enough period for students to become involved in the total operation of a secondary school.

Supporters of the two three-week periods (mainly primary teachers) saw the contribution this arrangement made in terms of greater variety of experience and in allowing students to learn from their initial experiences so that they might rectify shortcomings the "second time round".

Unexpectedly, there was significantly stronger support by the primary and preschool teachers for recommended changes to teaching practice, viz. more variety of experience, much earlier provision of feedback and more careful selection and preparation of supervising teachers. The primary and preschool teachers also gave considerably more support to the teaching practice objective of establishing relationships with children.

Differences between the opinions of the supervising teachers and non-supervising teachers could be traced to an emerging "supervisor's" view of supervision. The supervising teachers in the sample gave more support to students showing adaptability and sensitivity in the teaching situation but gave less support to earlier student feedback and to letting students observe a much wider variety of teachers, pupils, lessons and classes during teaching practice.

(ix) **The group of third-year students who participated in the evaluation of teaching practice conducted at Kelvin Grove College of Advanced Education in 1978 provided reliable, insightful commentary in the survey.**

That four-year-experienced teachers, one-third of whom had already supervised students themselves, perceived key aspects of teaching practice in much the same way as they had in their final college year is a finding that has far-reaching implications for course development committees. This study tends to confirm the importance of well-conducted evaluation studies as sources of invaluable data. They should be designed so that the perceived strengths of programs are investigated as thoroughly as are perceived weaknesses. It was heartening to find that between 80 and 90 per cent of the 257 students surveyed in the 1978 study were satisfied with four key elements of supervision.

REFLECTIONS ON THE RESEARCH

The reflections that follow are made in the knowledge that:

(a) the sample of teachers who cooperated in the investigations received their pre-service education at Kelvin Grove College of Advanced Education; and

(b) there has been a time lapse of three years since data were first collected.

Changes of considerable importance have occurred to teaching practice in this time, and many of these are attributable to the availability of the preliminary data analyses of this study early in 1983, e.g. briefing days; extension of teaching practice from fifteen weeks to sixteen weeks; the retention of a teaching practice block of five weeks in third year, with a planned additional period of three weeks in first semester, making a total of eight weeks in third year; the retention of teaching process units within the college course to prepare students for practical teaching; the use of secondary practising schools in all regions of Queensland; the development of lesson/weekly feedback sheets; the fostering of a liaison lecturer scheme; the retention of principal teaching subject - second teaching subject model in the 1985 Diploma of Teaching Course.

(i) College supervising lecturers should be inducted in the role of liaison lecturer so that they may visit schools from the beginning of each school year to tackle head-on the well-documented problems of teaching practice. (Refer Turney, 1982)

(ii) Each practising school should form its own coordinating committee to ensure that teaching practice receives effective support and is given its due share of human and physical resources.

(iii) Parents should be made aware of the professional responsibility that rests on every school to prepare beginning teachers in partnership with colleges and universities. The advantages that can accrue from the presence of students who have been appropriately prepared for teaching practice should also be communicated to parents.

(iv) New supervising teachers should be given much more assistance. Video tapes on supervisory skills should be available for borrowing by teachers in country schools.

(v) Coordinators of primary teaching practice programs should trial systems that encourage primary students to visit several supervising teachers in each session to extend their experience.

(vi) The objectives and the organisation of every teaching practice session should be rigorously scrutinised to ensure that students do progressively gain confidence in a variety of teaching situations.

(vii) Students should be prepared in the units that link college studies with practical teaching, for the responsibilities that collegial relationship entails.

(viii) Bachelor of Education units on staff development, educational leadership and professional supervision should be readily available to experienced teachers.

(ix) Investigations into teaching practice should be continued. Such investigations should incorporate structured interviews, conducted by trained observers so that the validity as well as the reliability of data can be assured.

(x) The perceptions that pupils have of student teachers should be investigated so that more is known of the effects of long and frequent sessions of teaching practice upon pupils' all-round development.

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OBJECTIVES AND SKILLS NEEDED FOR EFFECTIVE READING INSTRUCTION

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Much public debate in recent years on the "literacy problem" has focused the attention of many groups and individuals on the training of teachers of reading. It was the intention of this study to determine an accurate picture of the level of teacher knowledge and skills in the area of the teaching of reading. To this end an investigation was carried out gathering data from 300 practising teachers in Queensland during 1980-81. These teachers were drawn from the State system, Catholic and Independent schools from throughout Queensland. Schools were also selected on the basis of geographical location, urban or rural siting and size of school. Teachers were selected on the basis of years of experience, grade taught and sex. A questionnaire was sent to determine:

(a) the extent of the knowledge of teachers regarding reading teaching;

(b) the extent to which teachers saw the importance of areas of reading;

(c) the training teachers had received in reading instruction.

The following areas were included in the questionnaire:

- general background to reading
- reading skills (pre-reading, decoding, comprehension, oral reading, rate, research)
- planning for reading
- support for teaching reading
- effective teaching of reading.

Findings indicate that teachers, in general, have quite high knowledge regarding the reading process and the teaching of reading. This was particularly so for more recent graduates of longer programs. Many areas, however, were identified by teachers as

"self-developed skills" and should be included in preparation courses. Such areas included planning for reading teaching, grouping strategies, remediation and diagnosis, study of children's literature and further reading skills especially comprehension and research. Teachers indicated a large preference to a reading skills approach and suggested that training in alternative approaches would be an advantage. Differences in approach to reading were seen between lower, middle and upper primary schools. Teachers of older children did not see themselves teaching skills of reading as much as applications.